

Medicaid Bed-Hold Policy and Medicare Skilled Nursing Facility Rehospitalizations

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Objective. To analyze the effect of states' Medicaid bed-hold policies on the 30-day rehospitalization of Medicare postacute skilled nursing facility (SNF) residents.

Data Sources. Minimum data set assessments were merged with Medicare claims and eligibility files for all first-time SNF admissions ($N = 3,322,088$) over the period 2000 through 2005; states' Medicaid bed-hold policies were obtained via survey.

Study Design. Regression specification incorporating facility fixed effects to examine changes in Medicaid bed-hold policies on the likelihood of a 30-day SNF rehospitalization.

Principal Findings. Using a continuous measure of bed-hold generosity, state Medicaid bed-hold was positively related to Medicare SNF rehospitalization. Specifically, the introduction of a bed-hold policy with average generosity increases Medicare rehospitalizations by 1.8 percent, representing roughly 12,000 SNF rehospitalizations at a cost to Medicare of approximately U.S.\$100 million over our study period.

Conclusions. Although facilities do not receive a Medicaid bed-hold payment for Medicare SNF stays, we found that the adoption of more generous policies led to greater SNF rehospitalizations. This type of spillover is largely ignored in current discussions of Medicare payment reforms such as bundled payment. Neither Medicare nor Medicaid has an incentive to internalize the risks and benefits of its actions as they affect the other.

Key Words. Nursing homes, hospitalization, Medicare, Medicaid

The nursing home sector has undergone a remarkable transformation over the past two decades. In the 1970s and early 1980s, nursing homes largely provided chronic care to long-stay residents. The postacute, rehabilitative side of the nursing home market was negligible, with Medicare, the primary payer for these services, accounting for only 1.7 percent of total nursing home expenditures in 1980 (National Center for Health Statistics 2005). A series of policy changes, however, expanded the postacute side of the market considerably.

Medicare now accounts for 12.4 percent of total nursing home expenditures, and many industry observers regard Medicare as the most favorable payer (Medicare Payment Advisory Commission 2005).

Despite important differences in the needs of the chronic and postacute nursing home populations, quality of care within a facility has characteristics of a “public good” shared across all nursing home residents (Norton 2000). The central implication of this observation is that resources—and policies directed at improving care for one group of residents—may spillover to other residents. Given the bifurcated coverage of Medicare postacute and Medicaid chronic care services, however, neither program has an incentive to internalize the risks and benefits of its actions as they pertain to the other program (Grabowski 2007). Each program has the narrow interest of limiting its share of costs, and neither program is financially encouraged to assume responsibility for clinical care that might improve care outcomes.

Toward that end, the hospitalization of nursing home residents has emerged as an important area of interest for policy makers in recent years. These hospitalizations are known to be frequent (Intrator et al. 2007), costly (Grabowski, O’Malley, and Barhydt 2007), and often preventable (Saliba et al. 2000; Intrator, Zinn, and Mor 2004). MedPAC has identified the rehospitalization of Medicare residents as a particularly salient measure of postacute nursing home quality (Donelan-McCall et al. 2006). Indeed, within the first 30 days of being admitted to a nursing home from the hospital, nearly 25 percent of Medicare residents are rehospitalized (Mor et al., 2010).

Previous research has found state bed-hold policies, which pay nursing homes to reserve the bed of acutely hospitalized Medicaid residents, increase the rate of hospitalization among Medicaid nursing home residents. If there is “commonality” between short- and long-stay nursing home residents, then we would expect Medicaid bed-hold policies to also influence the care of post-acute short-stay residents. The key research question examined in this paper is whether state Medicaid bed-hold policy affects the rehospitalization of Medicare nursing home residents.

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BACKGROUND

Chronic and Postacute Nursing Home Residents

Broadly, nursing homes serve two markets, although there is heterogeneity in the populations receiving “chronic” and “postacute” nursing home care (Decker 2005). Chronically ill individuals often spend the remainder of their lives in a nursing home receiving a range of compensatory, rehabilitative, psychosocial, and social services with an average length of stay of about 2 years. Medicaid is the dominant payer for these long-stay residents (Grabowski and Gruber 2007). Most nursing homes (87 percent) are also certified by Medicare as skilled nursing facilities (SNFs), eligible to provide skilled, rehabilitative care to individuals following an acute care hospital episode. The objective of this care, with an average length of stay of roughly 25 days, is often a healthy discharge back to the community. Outside of Medicaid and Medicare, there is also some private payment of nursing home services (predominantly out-of-pocket with relatively little private insurance coverage), accounting for about 25 percent of all days of care (Jones 2002).

There is some specialization across nursing homes (Mor et al. 2004), but long-stay Medicaid residents and short-stay Medicare patients are typically cared for in the same setting. Our analyses of Medicare/Medicaid certified facilities indicate that the majority of Medicare residents (87 percent) are cared for in a facility that also cares for Medicaid residents, and similarly, the majority of Medicaid residents (84 percent) are cared for alongside Medicare residents.

Medicaid Bed-Hold Policies

States have broad discretion to set Medicaid nursing home payment policies (Wiener and Stevenson 1998). States’ nursing home policies have been shown to be associated with quality measures (Zhang and Grabowski 2004), expenditures (Harrington and Swan 1987), and access to services (Ettner 1993). Bed-hold policies pay nursing homes to reserve the bed of acutely hospitalized Medicaid residents, and they vary across states in the proportion of the average daily rate paid for bed-hold and the number of days covered. Some states also require a minimum facility occupancy rate to allow bed-hold payments. The goal of bed-hold is to provide a continuous place of residence for the nursing home resident. Indeed, recent empirical research has shown that these policies increased the likelihood of discharge back to the baseline nursing home (Intrator et al. 2009). In the absence of a bed-hold policy, some residents may refuse hospitalization to avoid loss of their bed (Nohlgren 2004).

On the other hand, if the marginal profit associated with the Medicaid bed-hold payment is greater than the marginal profit associated with nursing home Medicaid payment for continued care in the nursing home, then bed-hold introduces a financial incentive to hospitalize nursing home residents. Intrator et al. (2007) found that long-stay (i.e., Medicaid) nursing home residents in states with bed-hold policies have higher rates of hospitalization. To our knowledge, there has not been a previous study of Medicaid bed-hold and Medicare short-stay SNF rehospitalizations. Moreover, there has not been a longitudinal study of the implications of changes in bed-hold policies over time.

CONCEPTUAL FRAMEWORK AND PREVIOUS LITERATURE

Commonality in quality exists if an increase in quality for one group of nursing home residents implies that quality for another group will also increase. As in the case of the term “positive externality” from economics, commonality does not imply equality of care, only a positive connection. Commonality in quality is about inputs: a good nursing staff, for example, benefits all residents. Outcomes, another aspect of quality, are affected by common input quality, but they may differ across individuals and groups due to health status and other factors. Legal, behavioral, and economic reasons underlie the expectation that quality may be common across patients within a home. From a legal perspective, nursing homes certified to accept Medicaid or Medicare patients are required by the CMS to provide care of equal quality to all patients. From a behavioral perspective, there is long-standing recognition that professional norms matter in health care (Arrow 1963), and more specifically, norms of equality are one force motivating health care providers (Freidson 1994; Frank 2004). From a technological perspective, certain aspects of health care may exhibit strong economies of joint production. For example, improvement of a medication management system, or elevation of training standards, will affect the quality of care for all residents, regardless of payer source. Economic models of nursing homes have assumed quality is a public good, a strong form of commonality (Gertler 1989; see Norton 2000 for a review). Another route for commonality to arise is through “cost shifting” across different payers whereby revenue from Medicare patients is used to subsidize the care of Medicaid residents (Medicare Payment Advisory Commission 2005). Thus, even without a basis in joint production, a Medicare payment change may have implications for non-Medicare nursing home residents. Cost shifting has been observed in many health care settings (Morrisey 1996; Norton,

Lindrooth, and Dickey 1999; Grabowski, Gruber, and Angelelli 2008). Note, however, that negative externalities are also a possibility, as implied by a “multitasking” perspective (Holmstrom and Milgrom 1991). A payment-driven increase in quality for Medicaid may draw resources away from treatment of other residents, causing a negative spillover.

The direction and magnitude of spillovers or commonality in quality in nursing home care is ultimately an empirical matter. We have identified three studies that support the existence of positive spillovers between Medicaid and private-pay residents (McKay 1989; Troyer 2004; Grabowski, Gruber, and Angelelli 2008). In terms of work examining the short-stay and long-stay populations, research has found that the Medicare SNF prospective payment system (PPS) was linked to the quality of care for long-stay (predominantly Medicaid) nursing home residents (Konetzka, Norton, and Stearns 2006; Konetzka et al. 2006). That is, the probability of developing a urinary tract infection or pressure ulcer increased significantly after the Medicare PPS and the effects were roughly proportional to the percent of Medicare residents in a facility. These studies—using different data, methods, and outcomes—all imply some commonality in quality across different payer groups. However, it is worth stressing that no previous research has examined the implications of Medicaid nursing home payment changes for Medicare patients.

Based on the theoretical arguments outlined above and the findings in the literature to date, it is reasonable to expect commonality between short- and long-stay residents. Although the care needs and processes differ across short-stay and long-stay patients, registered nurses (RNs), licensed practical nurses, nurse aides, nurse practitioners, and physicians—not to mention amenities such as food, activities, and public spaces—are typically shared across the two groups. As noted above, most nursing homes jointly provide chronic and skilled services. Economies of joint production, implied by the predominance of facilities caring for both types of residents, also suggest some commonality in quality. Thus, we hypothesize that states with more generous Medicaid bed-hold policies will experience higher hospitalizations among Medicare-covered short-stay residents. Even though these Medicare residents do not generate a bed-hold payment, this spillover is thought to occur via behavioral norms in the incentive to hospitalize.

METHODS

Using Medicare inpatient claims for 2000–2005, we have identified all discharges to nursing homes during each calendar year, as indicated by an

available minimum data set (MDS) assessment or an SNF Medicare claim within 30 days of hospital discharge. We examined the pre–post difference in Medicare rehospitalizations in states that changed their Medicaid bed-hold policies relative to those states that did not undergo a change in these policies. Specifically, we used a differences-in-differences regression model to control for potential selection biases.

Data Sources

We used MDS data matched with Medicare SNF and hospital claims to identify all first-time SNF admits who had been admitted from the hospital. The MDS resident assessment instrument, in use in nursing homes since 1991, has nearly 400 data items, including cognitive functioning, physical functioning, diagnoses, health conditions, and more, which provide information on resident case mix acuity. The Centers for Medicare and Medicaid Services (CMS) mandates that all residents treated in a federally certified nursing home for at least 14 days be assessed quarterly, at admission, readmission, discharge, and when a significant change in health status occurs (Morris et al. 1990, 1997). We used MDS data from CMS's MDS repository from all 48 contiguous U.S. states (excluding Hawaii, Alaska, and the District of Columbia because they are either remote or have political constraints beyond those of the other states). MDS data were merged with Medicare eligibility files for the same time period to determine cohort eligibility, and with hospital inpatient and SNF claims to determine inpatient hospital utilization within 30 days. By examining SNF Medicare claims from previous years, we were able to ensure that the individual did not have a prior SNF admission. Over the period of study, there were 3,322,088 SNF admissions from 15,508 freestanding nursing homes.

Facility characteristics were obtained from the online survey, certification, and reporting (OSCAR) system. OSCAR provides information on nursing-home structure (proprietary status, number of beds, hospital affiliation, etc.), staffing, and service availability. For the purposes of this analysis, we eliminated those hospital-based nursing homes because they serve predominantly Medicare patients meaning that there is little chance of commonality. We should note that—in a minority of cases—there may be financial relationships between freestanding nursing homes and particular hospitals, but we do not have a means of identifying these relationships. We collected annual nursing home policy data including the average daily Medicaid nursing home payment rate and bed-hold policies via a comprehensive survey of state Medicaid offices (Grabowski et al. 2004, 2008).

Medicaid Bed-Hold Policy

The primary variable of interest is the state's Medicaid bed-hold policy. We used two alternate specifications of this variable. In the first, we treated the policy as a binary measure. Over the course of our study period, there were four such changes in state bed-hold policy. Specifically, Michigan adopted a policy in 2001, Illinois repealed their policy in 2003 and resumed it in 2004, Massachusetts repealed and then reinstated their policy in 2004, and Tennessee repealed their policy in 2005. Thus, with these offsetting changes, there were 36 states with a bed-hold at the beginning of 2000 and at the end of 2005.

The second specification of the bed-hold measure takes into account the complexity of the policy. Once again, the generosity of these policies varies based on the maximum annual days covered and the proportion of the standard Medicaid payment rate provided. Following earlier research (Intrator et al. 2009), we constructed a measure of the equivalent reimbursement days (ERD), a product of the maximum annual days for bed-hold and the proportion of the rate paid. If a state did not have a bed-hold policy, the ERD was set to zero. Over our period of study, the following 10 states made some change in their ERD: Georgia, Iowa, Illinois, Massachusetts, Maryland, Michigan, Minnesota, New Jersey, Oklahoma, and Tennessee. In most instances, states decreased the generosity of their ERD, with certain states making multiple changes over our period of study (see Table SA1 for a full description of bed-hold policy changes).

Outcome

The key outcome in this study was whether an individual discharged from a Medicare hospital stay to an SNF was rehospitalized within 30 days. In our base analyses, we include individuals who died in the SNF in the denominator, with the idea that these individuals represent potential rehospitalizations in many instances. However, given that residents who died were presumably sicker than those who remained alive, we acknowledge the possibility that the inclusion of deaths in the denominator may confound the analysis of bed-hold and rehospitalization. As such, we discuss a sensitivity analyses in the results section in which we consider a multinomial model with three 30-day outcomes: rehospitalization, death, and survival without rehospitalization.

Control Variables

We controlled for resident, facility, and state-policy variables, many of which had been used in other studies of nursing home hospitalizations (Freiman and

Murtaugh 1993; Murtaugh and Freiman 1995; Castle and Mor 1996; Mor et al. 1997; Intrator, Castle, and Mor 1999; Carter and Porell 2003; Intrator and Mor 2004; Intrator, Zinn, and Mor 2004; Porell and Carter 2005). At the resident level, variables were included for sociodemographic information (gender, age, race, ethnicity), an Elixhauser comorbidity score based upon the originating hospitalization, an MDS-based nursing case mix index (Fries et al. 1994), the presence of a do-not-resuscitate (DNR) order, and the length of the original hospitalization to control for the idea that some residents may be discharged to SNFs “sicker and quicker.” At the facility level, we controlled for the percent of non-white residents, high Medicaid homes (≥ 85 percent), high Medicare homes (≥ 15 percent), the presence of a nurse practitioner or physician’s assistant, the ratio of RNs to total nurses, and a high occupancy rate (≥ 95 percent). The final measure is particularly important in that a number of states have minimum occupancy triggers for bed-hold payment. Finally, we control for two other state-level Medicaid policies: the average Medicaid per diem (CPI adjusted and 1 year lagged) and whether the system is case mix adjusted (1 year lagged). Importantly, these other state Medicaid payment measures are not correlated with the presence of a bed-hold policy within our data, but they may independently influence rehospitalizations.

Statistical Analyses

The basic model specification is as follows:

$$\text{REHOSP}_{ijt} = \alpha + \beta \text{BEDHOLD}_{jt} + \gamma X_{ijt} + \eta_i + \lambda_t + \varepsilon_{ijt} \quad (1)$$

where i indexes individuals, j states, and t years. REHOSP is a 30-day rehospitalization following discharge from the initial hospital stay from whence they entered a nursing home. BEDHOLD represents the key Medicaid state-level policy variable: the presence (or generosity) of a bed-hold policy. X is a set of individual, nursing home, and state characteristics, and η_i and λ_t are facility and quarter fixed effects. The facility fixed effects control for any fixed facility-specific omitted variables correlated with the propensity to rehospitalize nursing home residents. The quarter dummies control for national trends in rehospitalizations that may be correlated with the implementation of bed-hold reimbursement. Thus, the basic identification strategy implicit in equation (1) purges the unobserved and potentially confounded cross-sectional heterogeneity by relying on the within-facility variation in bed-hold reimbursement over time and by using facilities that did not face changed policies as a control for unrelated time-series variation.

Given the size of our data set, least-squares models estimations of linear probability regression models are presented. Although this approach does not recognize the binary nature of the rehospitalization measure, it facilitates the tractable estimation of these models, which are based on a large number of observations and an expansive set of regression controls. Because we have multiple observations on individuals within facilities, standard errors are clustered at the level of the facility.

RESULTS

Over the period of study, 19.4 percent of first-time SNF admissions were rehospitalized within 30 days. Regardless of the presence of a bed-hold policy, there was a large increase in SNF rehospitalizations over time (see Figure 1). In states without a bed-hold policy, the SNF rehospitalization rate increased from 16.3 percent in 2000 to 19.3 percent in 2005, representing an 18.4 percent increase. Similarly, states with a bed-hold policy experienced a 16.3 percent increase from 17.8 percent in 2000 to 20.7 percent in 2005. In all study years, the rehospitalization rate was 5–10 percent greater in bed-hold states relative to nonbed-hold states. Roughly 80 percent of the SNF admissions occurred in states with a bed-hold policy and the average ERD was 14.1 (see Table 1).

Across both model specifications, the results suggest a positive relationship between Medicaid bed-hold payment and 30-day SNF rehospitalization. In the dichotomous (0/1) bed-hold specification, the adoption of bed-hold was

Figure 1: Unadjusted 30-Day Nursing Home Rehospitalization Rate, by Bed-Hold Status

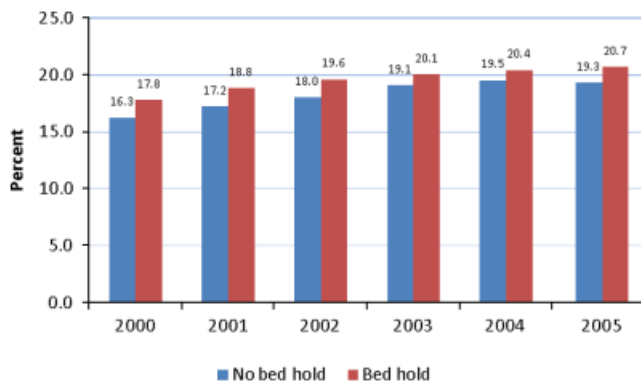


Table 1: Variable Description, Aggregated over 2000–2005 ($N = 3,322,088$ Residents from 15,508 Freestanding Nursing Homes)

	<i>Mean or Percentage</i>	<i>SD</i>
Bed-hold policy in place	79.5%	
Bed-hold: equivalent reimbursement days	14.1	21.1
State average Medicaid payment rate (CPI adjusted & lagged)	128.78	26.08
Case mix reimbursement (lagged)	64.1%	
% Non-white	10.9	17.8
≥ 85% Medicaid	4.6%	
≥ 15% Medicare	46.0%	
Having an NP/PA	30.5%	
Ratio RN to total nurses (SD)	0.33	0.19
≥ 95% occupancy rate	29.8%	
Age	81.5	7.3
Male	34.5%	
Black	7.3%	
Hispanic	2.5%	
Other race	1.1%	
Elixhauser comorbidity score	2.4	1.3
Nursing case mix index (SD)	1.05	0.22
Base hospitalization length of stay	10.8	10.0
Do-not-resuscitate order	32%	

CPI, consumer price index; NP, nurse practitioner; PA, physician's assistant; RN, registered nurse.

associated with a 0.28 percent point increase in rehospitalization, although this result just missed statistical significance at the 10 percent level (see Table 2). When benchmarked against the dependent variable mean, this result translates into a 1.4 percent increase in rehospitalizations. Thus, if we shifted all states from no bed-hold to a bed-hold policy, there would be approximately 10,000 additional SNF rehospitalizations over the period of study. If we assigned each SNF rehospitalization an average cost of U.S.\$8,300 (Jencks, Williams, and Coleman 2009), then these rehospitalizations would translate into U.S.\$83 million in additional Medicare costs. Although this figure is relatively modest, we excluded individuals with prior nursing home use from the analysis. If we were to include these individuals, then the cost to Medicare of SNF rehospitalizations would total nearly U.S.\$200 million.

In the second specification, an additional ERD was associated with a 0.02 percentage point increase in rehospitalizations. If all states shifted from no bed-hold policy to the “average” bed-hold policy (i.e., 17.1 fully reimbursed bed-hold days),¹ then our result would suggest a 1.8 percent increase in SNF rehospitalizations relative to the dependent variable mean. This would trans-

Table 2: Bed-Hold Payment and 30-Day Rehospitalizations, Regression Results

	Model 1		Model 2	
	β	p	β	p
Bed-hold policy:				
a. Dichotomous (1/0)	0.0028	.102	—	
b. ERD (continuous)	—		0.0002**	.003
Medicaid rate (CPI adjusted. and lagged; per U.S.\$10)	0.0002	.582	0.0003	.433
Case mix reimbursement (lagged)	− 0.0007	.695	0.0005	.771
% Non-white	0.0002**	.002	0.0002**	.002
≥ 85% Medicaid	− 0.0007	.677	− 0.0006	.685
≥ 15% Medicare	0.0019**	.019	0.0018*	.020
Having an NP/PA	− 0.0011	.171	− 0.0011	.169
Ratio RN to total nurses	− 0.0006	.341	− 0.0006	.340
≥ 95% occupancy rate	− 0.0029***	.000	− 0.0029***	.000
Age	− 0.0006***	.000	− 0.0006***	.000
Male	0.0429***	.000	0.0429***	.000
Black	0.0031**	.003	0.0031**	.003
Hispanic	0.0026*	.013	0.0026	.130
Other race	0.0031	.178	0.0031	.178
Elixhauser comorbidity score	0.0155***	.000	0.0155***	.000
Nursing case mix index	0.0427***	.000	0.0427***	.000
Base hospitalization length of stay	0.0024***	.000	0.0024***	.000
Do-not-resuscitate order	− 0.0360***	.000	− 0.0360***	.000
Facility fixed effects	Y		Y	
Quarter fixed effects	Y		Y	
Intercept	0.1385***	.000	0.1366***	.000
N (residents)	3,322,088		3,322,088	
N (facilities)	15,508		15,508	

Notes. Model applies robust standard errors adjusted for within-facility clustering.

*** $p < .001$.

** $p < .01$.

* $p < .05$.

CPI, consumer price index; ERD, equivalent reimbursement days; NP, nurse practitioner; PA, physician's assistant; RN, registered nurse.

late into approximately 12,000 additional SNF rehospitalizations at a total cost to Medicare of about U.S.\$100 million over the period of study.

Across both specifications, it is worth noting the other two state Medicaid policies: the average per diem and the use of a case mix-adjusted payment methodology. The policies are statistically insignificant in both specifications, and given the size of the standard errors, we can reject substantively small effects. In terms of other key measures, residents in SNFs with a high Medicare share (≥ 15 percent) were more likely to have a 30-day

rehospitalization in both specifications. Residents in a high Medicaid SNF (≥ 85 percent) were less likely to be rehospitalized, although the result was not statistically significant in either specification. Individuals with a DNR order were less likely to be rehospitalized. Finally, residents in SNFs with higher occupancy rates (≥ 95 percent) were less likely to have a rehospitalization.

Sensitivity Analysis

A key feature of our analyses is the decision to include individuals who die within 30 days in the SNF within our denominator. Once again, our rationale was that these individuals could have been rehospitalized before death and we opted not to eliminate these potential cases. However, we acknowledge the possibility that the failure to hospitalize these individuals may represent poor care on the part of the SNF. This suggests a three-category multinomial response model in which the potential outcomes are death, rehospitalization, or remained alive. Given the large data file, we estimated two binary response models, one contrasting hospitalizations to the referent category of remained alive, and the other contrasting deaths without having been hospitalized to the referent category. This estimation method was necessary in order to handle the large data file, although it produces results with somewhat less efficient estimates than those obtained by estimation of the full multinomial response model (Begg and Gray 1984).

In the analyses comparing rehospitalization against remaining alive (excluding deaths), the point estimates for both bed-hold specifications were almost identical to those presented in the paper. However, the standard errors were inflated in both cases, with only the ERD specification indicating a statistically significant result. Interestingly, the presence of Medicaid case mix payment was statistically significant in these analyses, suggesting that those states that adopted case mix-adjusted Medicaid payment had fewer Medicare rehospitalizations. A more generous bed-hold payment (higher ERD) had a modest positive effect on the likelihood of death within 30 days following the original hospital discharge. The overall Medicaid per diem and the presence of case mix payment were not associated with mortality within 30 days of the initial hospital discharge.

DISCUSSION

The underlying reasons for the high rates of SNF rehospitalization are numerous and complicated, but our results suggest part of the story relates to the

presence and generosity of state Medicaid bed-hold policies. Specifically, states that adopt a bed-hold policy of average generosity (17 reimbursed days) have a 1.8 percent higher rehospitalization rate. Although nursing homes do not receive increased payment when Medicare SNF patients are rehospitalized, we posit that there is something about the culture in these facilities which makes it difficult, at the margin, to treat short-stay SNF and long-stay chronic care residents differently.

The results of our study contribute to the growing literature about how health care organizations practice in the face of heterogeneous financial incentives; that is, different insurance and reimbursement models associated with different patients. Previous research had found that Medicare policies affected Medicaid outcomes (Konetzka et al. 2006). We have now showed the opposite to be true as well—Medicaid policies matter for Medicare patients. Under the current system, neither program has an incentive to enact payment policies that recognize the welfare of residents covered by the other program.

In the context of health care reform, there has been much recent discussion about Medicare payment reforms. One potential option on the table is to bundle all Medicare payments in order to incentivize more efficient resource use. Under a bundled system, a hospital and SNF might share in the savings from preventing a hospital readmission. As such, a hospital would have less incentive to discharge a patient prematurely to an SNF and the SNF would have less incentive to rehospitalize the patient. Skeptics of paying providers under a bundled system have raised a range of potential issues, including the increased incentives to create more bundles (volume response), selection of the most profitable patients, stinting on patient care, upcoding, fraud, and case mix adjustment. However, this paper raises an additional issue with bundled Medicare payment. Some of the empirical variation in SNF rehospitalizations relates to state Medicaid payment policies, which are largely outside the control of Medicare policy makers. Because a Medicare-only solution such as bundling will not take account of potential spillovers from Medicaid, policy makers will need to consider system-level solutions that engage Medicaid (Grabowski 2007).

In taking a system-level perspective, this paper provides further evidence that Medicaid bed-hold is an outdated policy. These laws date back to the 1970s and 1980s when nursing homes had long waiting lists and operated at near capacity. In that era, the threat of a lost bed following hospitalization was quite salient. In today's nursing home environment, national occupancy rates are down below 90 percent and the threat of a lost bed for a hospitalized resident is much less apparent. Nevertheless, roughly 75 percent of states still have bed-hold policies in place. Previous research has suggested that these

policies do indeed help to encourage continuity of care following a hospitalization (Intrator et al. 2009), but they also stimulate additional hospitalizations among Medicaid residents (Intrator et al. 2007). In balancing these competing forces, Intrator et al. (2009) suggest that the increased likelihood of hospitalization under bed-hold likely overwhelms the potential benefits associated with returning back to the original nursing home following hospitalization. This paper adds to this story by suggesting that these policies help to foster a “hospitalization culture” in which nursing homes also increase Medicare rehospitalizations. Thus, these policies are often a “lose–lose–lose” for Medicaid (pays bed-hold), Medicare (pays rehospitalization), and the beneficiary (unnecessarily hospitalized). The only potential winners are nursing homes and hospitals that accrue additional payments as beneficiaries “churn” between settings.

Clearly, one way to balance the gains from bed-hold against the costs of increased hospitalization would be to better enforce minimum occupancy requirements. In certain states, any nursing home below a given occupancy level does not receive a payment when a Medicaid resident is hospitalized. Several states adopted or increased minimum occupancy requirements over our period of study. For example, Florida increased their minimum threshold from 80 to 95 percent in 2004 and Indiana adopted a 90 percent threshold in 2002. The potential concerns here are two-fold. First, in our discussions of bed-hold policy with state Medicaid officials, there has been the concern about calculating occupancy on a real-time basis using administrative data. Often, occupancy is calculated on a quarterly or an annual basis, which means true occupancy may be below the threshold at the time of hospitalization but over the threshold for a longer period. In an extreme example, one state official noted that the Medicaid office never actually monitored or enforced their bed-hold minimum occupancy requirement and simply took facilities at their word regarding occupancy. Second, even if bed-hold ensures that low-occupancy nursing homes do not receive a payment, these policies still contribute to a prohospitalization culture within nursing homes. As the results of this paper suggest, nursing homes do not need to receive a payment to increase hospitalizations in the context of a bed-hold policy. A stringent minimum threshold may not be enough to deter unnecessary hospitalizations.

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NOTE

1. Average ERD was constructed based on all state-year cells with a bed-hold policy in place over our period of study (2000–2005). However, we excluded Montana (ERD = 365) because it was an outlier. The next most generous bed-hold states were Iowa (ERD = 90) and Kentucky (ERD = 45).

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix SA1: Author Matrix.

Table SA1. Summary of State Bed-Hold Policy Changes, 1999–2005.

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